

# **“NORM” – USING NORM CALCULATORS TO UNDERSTAND STUDENT ACHIEVEMENT**

## **I. School Norms**

- School Norm Calculator

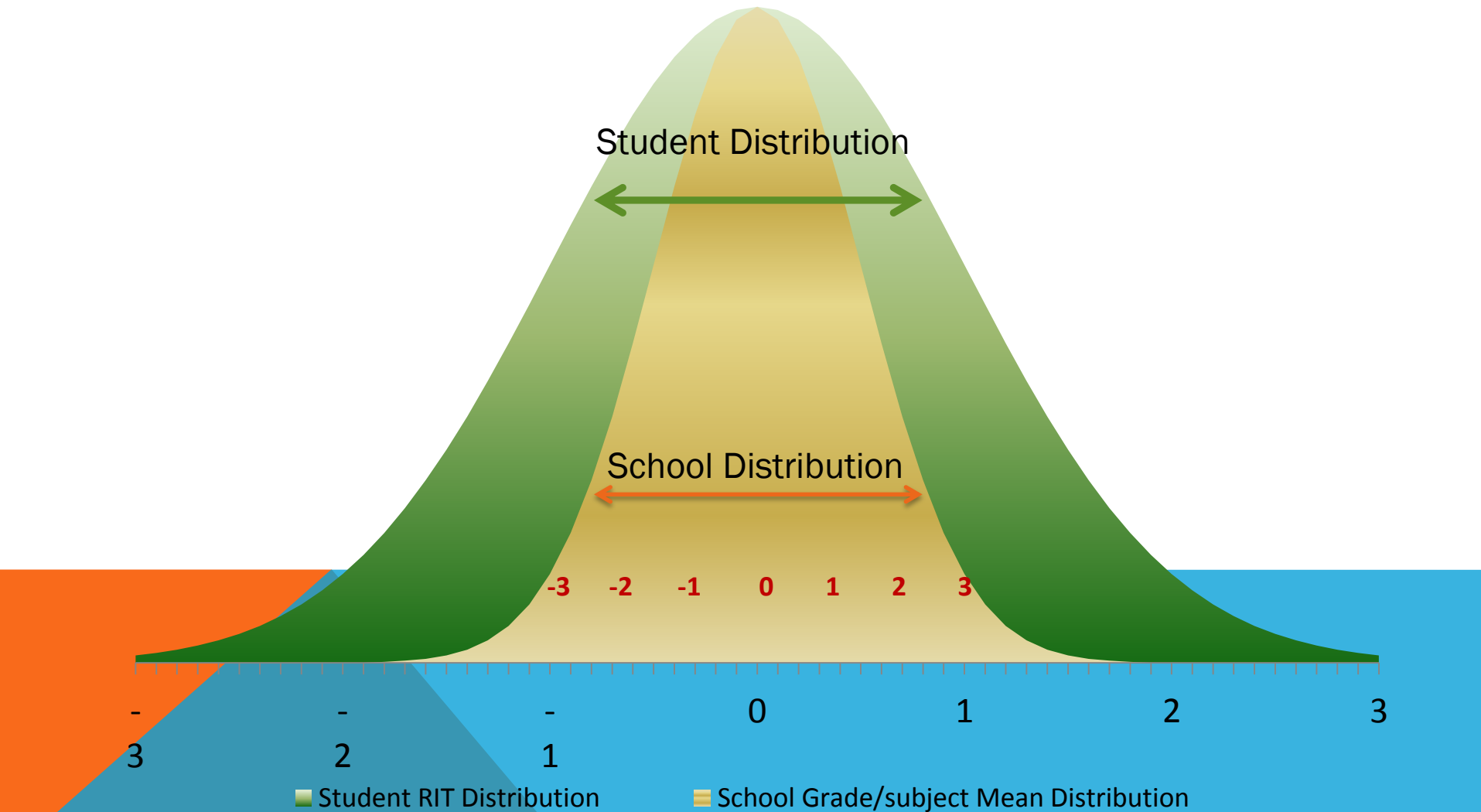
## **II. Student Norms**

- ASG Calculator



# SO WHAT IS THE DIFFERENCE?

## SCHOOL VS. STUDENT NORMS



# What's the Difference?

## Student Norms

- 2011 Norm study
- Using 5.1 million students
- Compares Individual student performance
- Normative data to compare students, small groups (classes)
- Teachers most likely users – Use the ASG Calculator

## School Norms

- 2012 Norm study
- Participating Schools nationally (weighted)
- Compares Building level data
- Normative data to compare groups of students: grade level, building
- Principals, CIAs most likely users – School Calculator



# Uses For School Norms

- Setting School Improvement Goals
- Setting Building Goals
- Comparing your school performance to other schools
- Reporting performance to Community



# Uses For Student Norms

- Understanding a single student's achievement
- Setting goals with students
- Sharing information with parents, other educators about a student
- Classroom analysis (>30 kids)
- Classroom goals for growth/status





# Two Metrics to Note

- Percentile Rank (status score)



- Growth Percentile Rank (gain score)



# Instructional Weeks



# Use the School Norm Calculator

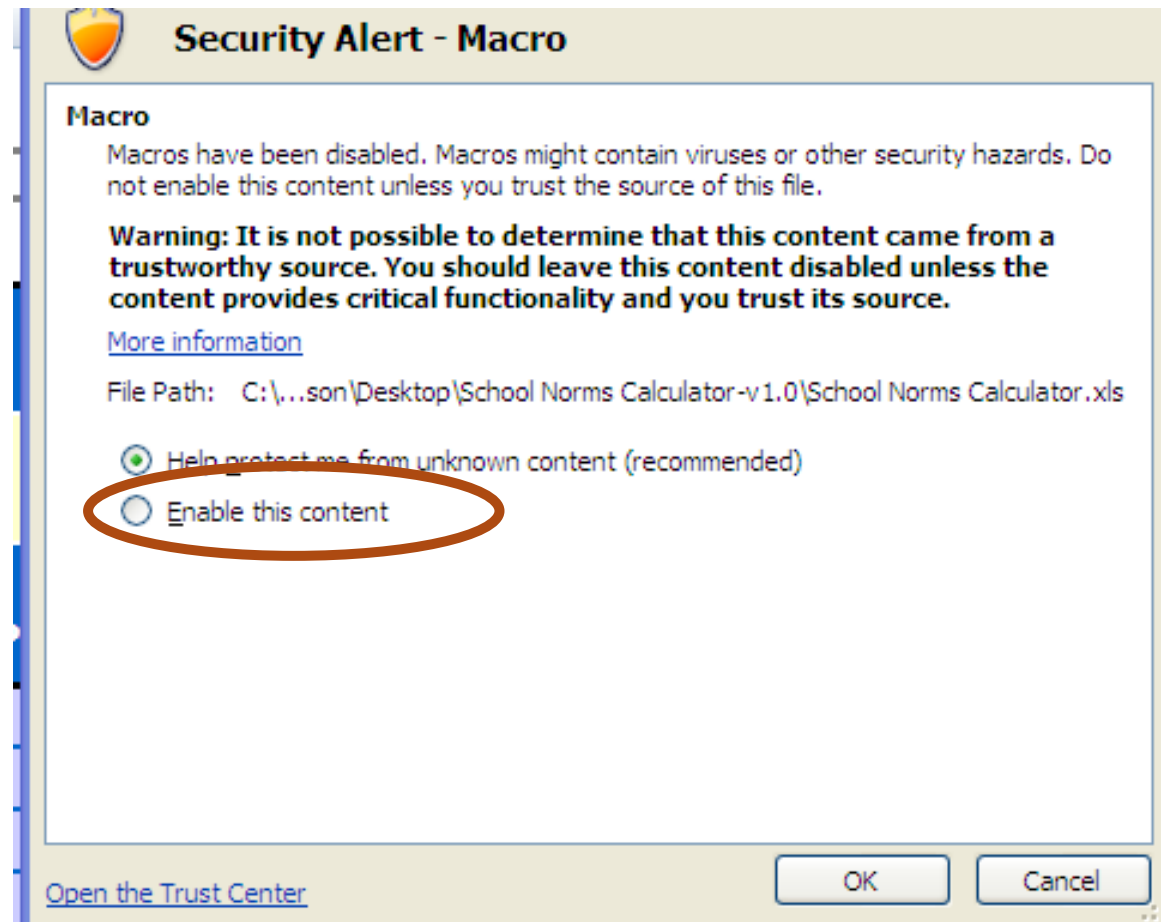
- Download the Excel calculator at <http://www.nwea.org/support/article/norms-study-resources>
- Save to your desktop

Subject	Status			Growth				
Math	Term			Term to Term				
	<div>▼</div>							
Grade	Instructional Week Offset	Grade Mean RIT Score	School Percentile	Observed Grade Mean Growth	Grade Mean RIT Score for Start Term	Instructional Week		Mean Gain Percentile
						Start	End	
K								
1								
2								
3								
4								
5								
6								
7								
8								
9								




# Using the Calculator

## IMPORTANT! Enable the Macros



# Student Growth Summary

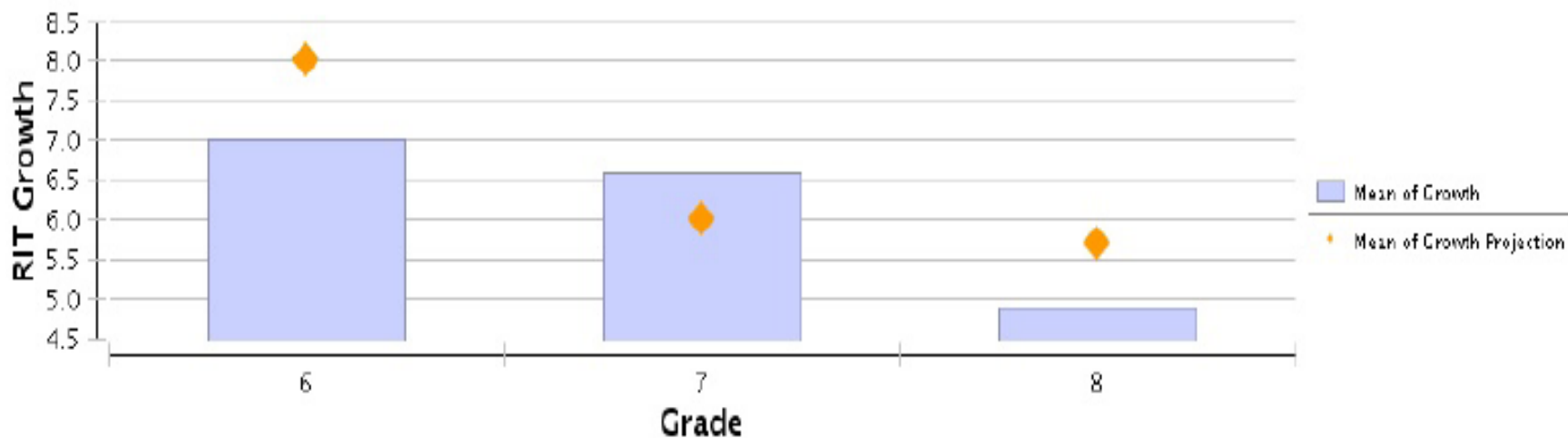
 Northwest Evaluation Association <i>Partnering to help all kids learn</i>	<b>Student Growth Summary Report</b>		
	<b>Aggregate by School</b>		
	Term:	Fall 2011-2012	
	District:	NWEA Sample District 4	
	Grouping:	None	
	Small Group Display:	No	
	Growth measured from	Fall 2010 to Fall 2011	

## Mount Bachelor Middle School

### Mathematics

Grade (Fall 2011)	Count	Fall 2010		Fall 2011		Actual Growth			Projected Growth					
		Mean RIT	Std Dev	Mean RIT	Std Dev	Mean Growth	Std Dev	Sampling Error	Count with Projection	Mean Projection	Growth Index	Percent of Projection	Count Meeting Projection	Percent Meeting Projection
6	87	212.4	13.5	219.4	15.0	7.0	7.6	0.8	87	8.0	-1.0	87.5	36	41.4
7	137	218.1	14.0	224.6	14.3	6.6	6.1	0.5	137	6.0	0.6	110.0	74	54.0
8	89	226.4	15.0	231.3	14.2	4.9	7.2	0.8	89	5.7	-0.8	86.0	43	48.3

### Mathematics



# Sample Student Growth Bldg./District Summary Report

## Student Growth District Summary - Fall 2008 to Spring 2009

District: [Redacted]

\*( Small Group Summary Display is OFF

Mathematics		Fall 2008		Spring 2009		G r o w t h			Mean Growth Target **	Growth Index	Percent of Target	Count Meeting Growth Target	Percent Meeting Growth Target
	Count	Mean RIT	Std Dev	Mean RIT	Std Dev	Mean	Std Dev	Std Error					
Grade 1	3	*	*	*	*	*	*	*	*	*	*	*	*
Grade 2	669	181.5	14.8	194.3	13.1	12.8	8.6	0.3	13.2	-0.4	97.0	338	50.5
Grade 3	650	195.4	12.4	208.3	12.6	12.9	7.5	0.3	10.5	2.4	122.5	431	66.3
Grade 4	723	205.7	13.0	217.1	14.5	11.4	7.6	0.3	9.0	2.4	126.3	480	66.4
Grade 5	672	217.3	13.3	228.0	14.9	10.7	8.2	0.3	7.2	3.5	148.7	493	73.4
Grade 6	673	223.2	16.1	232.3	16.5	9.1	8.0	0.3	6.4	2.8	143.1	455	67.6
Grade 7	204	213.7	13.4	216.2	14.7	2.5	9.2	0.6	6.6	-4.1	37.7	74	36.3
Grade 8	254	220.1	13.4	221.8	15.6	1.7	10.2	0.6	5.2	-3.5	32.5	90	35.4
Grade 9	262	226.0	12.5	226.2	14.1	0.2	9.3	0.6	2.9	-2.7	8.0	117	44.7

# Choose a Subject

## School Norms Calculator



Subject	Status			Growth				
Math	Term			Term to Term				
Grade	Instructional Week Offset	Grade Mean RIT Score	School Percentile	Observed Grade Mean Growth	Grade Mean RIT Score for Start Term	Instructional Week		Mean Gain Percentile
						Start	End	
K								
1								
2								
3								
4								
5								
6								
7								
8								
9								



# Choose a term

## School Norms Calculator

Calculate

Reset

Subject	Status			Growth				
Math	Term		Fall	Term to Term				
Grade	Instructional Week Offset	Grade Mean RIT Score	School Percentile	Observed Grade Mean Growth	Grade Mean RIT Score for Start Term	Instructional Week		Mean Gain Percentile
						Start	End	
K	0							
1	0							
2	0							
3	0							
4	0							
5	0							
6	0							
7	0							
8	0							
9	0							
10	0							

# Choose a Growth Period

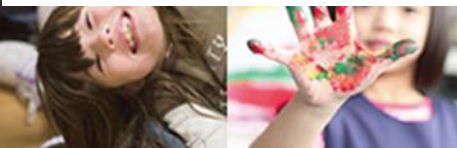
## School Growth Projection Calculator

v1

Calculate

Reset

Subject	Status			Growth						
Math	Term		Fall	Term to Term				Fall to Fall		
Grade	Instructional Week Offset	Grade Mean RIT Score	School Percentile	Observed Grade Mean Growth	Grade Mean RIT Score for Start Term	Instructional Week		Mean Gain Percentile	Mean Projection	Mean Projection Std Dev
						Start	End			
K	0					4	40			
1	0					4	40			
2	0					4	40			
3	0					4	40			
4	0					4	40			
5	0					4	40			
6	0					4	40			
7	0					4	40			
8	0					4	40			
9	0					4	40			
10	0					4	40			



# Sample District Growth Summary Report

## Student Growth District Summary - Fall 2008 to Spring 2009

District: [Redacted]

\*( Small Group Summary Display is OFF

Mathematics		Fall 2008		Spring 2009		G r o w t h			Mean Growth Target **	Growth Index	Percent of Target	Count Meeting Growth Target	Percent Meeting Growth Target
	Count	Mean RIT	Std Dev	Mean RIT	Std Dev	Mean	Std Dev	Std Error					
Grade 1	3	*	*	*	*	*	*	*	*	*	*	*	*
Grade 2	669	181.5	14.8	194.3	13.1	12.8	8.6	0.3	13.2	-0.4	97.0	338	50.5
Grade 3	650	195.4	12.4	208.3	12.6	12.9	7.5	0.3	10.5	2.4	122.5	431	66.3
Grade 4	723	205.7	13.0	217.1	14.5	11.4	7.6	0.3	9.0	2.4	126.3	480	66.4
Grade 5	672	217.3	13.3	228.0	14.9	10.7	8.2	0.3	7.2	3.5	148.7	493	73.4
Grade 6	673	223.2	16.1	232.3	16.5	9.1	8.0	0.3	6.4	2.8	143.1	455	67.6
Grade 7	204	213.7	13.4	216.2	14.7	2.5	9.2	0.6	6.6	-4.1	37.7	74	36.3
Grade 8	254	220.1	13.4	221.8	15.6	1.7	10.2	0.6	5.2	-3.5	32.5	90	35.4
Grade 9	262	226.0	12.5	226.2	14.1	0.2	9.3	0.6	2.9	-2.7	8.0	117	44.7

# Status & Growth Results

## School Norms Calculator



Subject	Status			Growth				
Math	Term		Fall	Term to Term				Fall to Spring
Grade	Instructional Week Offset	Grade Mean RIT Score	School Percentile	Observed Grade Mean Growth	Grade Mean RIT Score for Start Term	Instructional Week		Mean Gain Percentile
						Start	End	
K	0					4	30	
1	0					4	30	
2	0	181.5	73	12.8	181.5	4	30	41
3	0	195.4	75	12.9	195.4	4	30	77
4	0	205.7	71	11.4	205.7	4	30	77
5	0	217.3	84	10.7	217.3	4	30	75
6	0	223.2	80	9.1	223.2	4	30	84
7	0	213.7	4	2.5	213.7	4	30	2
8	0	220.1	10	1.5	220.1	4	30	2
9	0	226	21	0.02	226	4	30	4



# Change the Instructional Weeks

## School Norms Calculator

Calculate

Reset

Subject	Status			Growth				
Math	Term		Fall	Term to Term				Fall to Spring
Grade	Instructional Week Offset	Grade Mean RIT Score	School Percentile	Observed Grade Mean Growth	Grade Mean RIT Score for Start Term	Instructional Week		Mean Gain Percentile
						Start	End	
K	0					4	30	
1	0					4	30	
2	0	181.5	73	12.8	181.5	2	32	14
3	0	195.4	75	12.9	195.4	2	32	47
4	0	205.7	71	11.4	205.7	2	32	59
5	0	217.3	84	10.7	217.3	2	32	58
6	0	223.2	80	9.1	223.2	2	32	75
7	0	213.7	4	2.5	213.7	2	32	1
8	0	220.1	10	1.5	220.1	2	32	1
9	0	226	21	0.02	226	2	32	4

# ASG Calculator

## Subject & Grade

Subject

Mathematics

Grade

5

## Student Achievement

### Comparison Period

Begin

End

Instructional Week

4

30

Student RIT Score

205

208

SEM of Student RIT Score

3.2

3.4

## Status Norms

Predicted Mean of Grade Level RIT Score

213

221

Predicted SD of Grade Level RIT Score

14.22

14.88

Student's Status Percentile

29

19

## Growth Norms

Observed Student Growth

3

SEM of Observed Student Growth

4.67

Growth Projection

8

SD of Growth

6.30

Conditional Growth Index

-0.82

Student's Growth Percentile

21

# Conditional Growth Index

- CGI is a metric – provides context for how much growth a student showed compared to their own projection
- Expressed as a standard deviation unit – above or below the projection
- $-.82$  sd below the growth projection

## Growth Norms

Observed Student Growth	3
SEM of Observed Student Growth	4.67
Growth Projection	8
SD of Growth	6.30
Conditional Growth Index	-0.82
Student's Growth Percentile	21

# Uses for the CGI

- Teachers can average the CGI of all students and track growth for all students
- Compare the CGI from year to year
- Example:
  - 2011 to 2012, my avg. CGI was .61
  - 2012 to 2013 my avg. CGI was .65

